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**PEARLS A MYSTERY.**

The Method Used to Drill Round and Polish.

Nearly all of the molluscous animals that are aquatic and reside in shells are provided with a fluid secretion which they make use of to line their shell homes, and thus give to the hard substance of which the shell is formed a smooth surface that can in no way irritate the very tender body of the animal. The exact nature of this secretion has never been satisfactorily determined, but it is evidently deposited in thin, semi-transparent films, which overlap each other irregularly, and to this peculiar arrangement of the films is attributed the iridescent luster of pearl.

In some species this pearly lining is quite thick, and is used for making many beautiful and useful articles. The material is called mother of pearl by dealers and nares by zoologists.

Frequently, when the shells are opened, detached parts of the nares are found. These loose orbs are thought to be the result of accidental causes. A grain of sand or other substance, for example, may in some way get into the shell and irritate the tender body of the occupant. Until, in self defense, it covers the intruding particle with nares. As the secretion goes on regularly to supply the wear and growth of the shell the foreign body constantly receives its full share, and thus increases in size until it becomes a pearl.

The Chinese very cleverly make use of their knowledge of this fact to compel one species of fresh water mussel, uniohyria, to produce pearls. They keep the unios in tanks, and insert little spherical pieces of mother of pearl or small leaden shot between the shell and the mantle of the animal; these regularly receive their coatings of the nacreous secretion, and after a time they look like pearls formed under ordinary circumstances.

In many of our museums small pearl images of Buddha are to be seen, and are considered great curiosities. The Chinese obtain these images by imposing on the much-abused unios. They insert small images of the Buddha, stamped out of metal, and leave them in the shell until they are thickly coated with nares.

The formation of pearls seems to have been a great puzzle to the ancients. Pliny and Dioscorides mention the very pretty belief that they were drops of dew or rain, which fell into the shells when opened by the animal, and were then changed into pearls by some power of the owners of the shell homes.

The most famous pearls are those from the East. From very early times the coast of Ceylon has been the chief locality for pearl fishing; now, however, pearls of nearly the same quality are found in Panama, St. Margarita, in the West Indies; the Bahrain Islands, the Caromandel Coast and in other places.

When the pearl divers have obtained a boat load of the pearl oysters they return to the shore and there pile the precious cargo to die and putrefy, so that the pearls may be easily found. When the occupants of the shells are sufficiently decomposed the washing process begins, and the loose pearls, which are always the most valuable, are carefully watched for.

The large pearls of good color and form are the best; the smaller ones are sorted into sizes, the very smallest being known as "seed pearls." If any pearls are found attached to the shells they are handed over to the clippers, who, with pincers or hammers, skillfully detach them. Such pearls are, as a rule, used for setting, while the loose pearls are drilled and strung and are used in many ways.

The method employed to hold the pearls while the workmen drill, round and polish them is very singular. A number of holes of small depth are made in a dry piece of wood, and in these the pearls are fitted so that they are only partly beneath the surface of the wood; then the wood is placed in water. As it soaks up the water and swells the pearls become securely fixed and are then worked upon.

**Sound of a Sunbeam.**

One of the most wonderful of the many discoveries in science that have been made during the past few years is the fact that a ray of light produces sound. A beam of sunlight is caused to pass through a prism so as to produce what is called the solar spectrum or rainbow. A disk, having slits cut in it, is revolved swiftly, and the colored light of the rainbow is made to break through it. Place the ear to a vessel containing silk, wool or other colored material. As the colored lights of the spectrum fall upon it sounds will be given by different parts of the spectrum, and there will be silence in other parts. For instance, if the vessel contains red worsted and the green light flashes upon it loud sounds will be given. Only feeble sounds will be heard if the red and blue parts of the rainbow fall upon the vessel, and other colors make no sound at all. Green silk gives sound best in a red light. Every kind of material gives more or less sound in different colors and utters no sound in others.

**Setting the River on Fire.**

"Setting the Thames on fire" is an oft heard saying, but probably few people know its origin, concerning which the following explanation has been given: In the time of our forefathers corn was ground in a rough instrument called a "temse." This was merely a stone hollowed out to receive the corn, with a piece of wood passed through it, which, being rapidly turned, ground the corn to flour. If the wooden handle was turned with sufficient force the friction of the wood against the stone would cause the stick to catch fire, but as it required considerable energy to produce this effect the person who could accomplish it was thought smart, and he who could "set the temse on fire" was pretty sure to be a good worker in other ways. After a time the "temse" was superseded by better machinery.

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By Thomas E. Hill.

This is a large octavo book of 450 pages, condensed by tabulation into a small book that it may be universally sold and circulated at a low price.

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What are Democratic principles?	What are the arguments for and against protection?	What do the Socialists want?	What would be the conditions if Socialistic principles prevailed?	What do the Populists desire?	What government owned and operated the banks, and banks never failed, and people never hid their money and all money came out and into active circulation, and money was as abundant that interest became low, and all enterprises started up and everybody had employment, what then?	What do the Nationalists want?	Why nationalize the railroads, the coal mines and various industries?	What do the eight-hour advocates propose? If working certain hours yields certain profit, how could working less hours yield more profit?	How could women be benefited by voting?	What started the financial panic of 1893?	Who commenced the trade against silver that resulted in the repeal of the Sherman law?	Who started the stampede on the banks in 1907, by which 715 of them failed in eight months, and four hundred million dollars	What has thrown so many people into distress of late years?	What is the history of the Cooney movement?	When did the coal miners' strike begin and what was the extent of that movement?	What are the facts about the Pullman strike, the American Railway Union and the boycott of the Pullman cars?	What are the remedies proposed whereby capital and labor may each have justice?	See "Hill's Political History of the United States."
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